

Attorney Docket No.: ZL076/04010
Inventor: Kuhl et al.
Appl. No.: 10/654,169

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Original): A method for adjusting the selecting out of winnowings in the manufacture of smokable products, wherein:

- a) the current size distribution of a stream of tobacco particles passing a measuring point, per unit of time, is detected; and
- b) is compared with a settable nominal size distribution; wherein
- c) an arrangement for separating the winnowings is continually adjusted, depending on the result of said comparison.

Claim 2 (Previously Presented): The method as set forth in claim 1, wherein said smokable products are cigarettes.

Claim 3 (Original): The method as set forth in claim 1, wherein the current size distribution of a stream of separated winnowings, of a stream of usable tobacco particles and winnowings or of a stream of usable tobacco particles alone is detected and compared with a corresponding, settable nominal size distribution.

Claim 4 (Original): The method as set forth in claim 1, wherein said current size distribution is determined by detecting the dimensions of the tobacco particles in the transport direction at said measuring point.

Claim 5 (Original): The method as set forth in claim 4, wherein the dimensions of the tobacco particles are detected using a fine-beam light barrier.

Claim 6 (Previously Presented): The method as set forth in claim 5, wherein the volume or the mass flow rate of the tobacco particles passing the measuring point is determined by detecting the dimensions of the tobacco particles in the transport direction.

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Claim 7 (Original): The method as set forth in claim 1, wherein the current size distribution and the nominal size distribution are compared on the basis of their peaks or the overall area of the corresponding curve.

Claim 8 (Original): The method as set forth in claim 1, wherein the current size distribution and the nominal size distribution are compared on the basis of the ratio between the size distributions for the winnowings and for the usable tobacco particles.

Claim 9 (Original): The method as set forth in claim 1, wherein the spatial position of separating units for the winnowings is set, depending on the result of said comparison.

Claim 10 (Original): The method as set forth in claim 9, wherein an impact sheet serving as a separating unit is continually adjusted using an electric motor.

Claim 11 (Original): The method as set forth in claim 10, wherein said impact sheet is an impact metal sheet.

Claim 12 (Original): The method as set forth in claim 10, wherein said electric motor is a servo or step motor.

Claim 13 (Original): The method as set forth in claim 10, wherein said electric motor is directly attached to said impact metal sheet.

Claim 14 (Original): The method as set forth in claim 10, wherein said electric motor is coupled to said impact metal sheet via Bowden wire connections, said impact metal sheet being biased into a defined position via springs.

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Claim 15 (Original): The method as set forth in claim 9, wherein the stream of air serving to separate an initial stream of tobacco particles into the usable particles and winnowings is adjusted, depending on the result of the comparison.

Claim 16 (Previously Presented): The method as set forth in claim 15, wherein the stream quantity or the pressure of the stream of air is adjusted.

Claim 17 (Original): The method as set forth in claim 9, wherein the velocity of the conveying medium for the stream of tobacco particles is adjusted, depending on the result of the comparison.

Claim 18 (Original): The method as set forth in claim 17, wherein cylinders, belts or streams of air are used as said conveying medium.

Claim 19 (Currently Amended): The method as set forth in claim 18, wherein the velocity of the stream of air serving as the conveying medium for winnowings is adjusted by changing the stream quantity or the pressure.

Claim 20 (Original): The method as set forth in claim 1, wherein the nominal size distribution is determined by detecting the change in the ratio of the size of the winnowings to the size distribution of the usable tobacco particles and optimizing said ratio by adjusting the arrangement for separating the winnowings.

~~Claim 21-23 (Canceled)~~

Claim 24 (Previously Presented): A method for separating winnowings in an air flow comprising:

generating a size distribution of a tobacco particle stream;

comparing said size distribution with an optimal size distribution;

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continually adjusting said size distribution of said tobacco particle stream using a separation unit based upon said comparing step.

Claim 25 (Previously Presented): The method of Claim 24 wherein said generating of said size distribution of said tobacco particle stream is conducted on a tobacco particle stream of winnowings and larger lamina tobacco particles.

Claim 26 (Previously Presented): The method of Claim 24 wherein said size distribution is created by detecting an average individual particle size of said tobacco particle stream.

Claim 27 (Previously Presented): The method of Claim 26 wherein said generating of said size distribution is completed using a fine beam light barrier.

Claim 28 (Previously Presented): The method of Claim 24 wherein said size distribution of said tobacco particle stream and said size distribution of said optimal size distribution are compared on the basis of an area of each individual size distribution.

Claim 29 (Previously Presented): The method as set forth in Claim 24 wherein said comparing step is conducted based on a comparison of the peaks of each of said size distributions.

Claim 30 (Previously Presented): The method of Claim 24 wherein said size

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distribution of a tobacco particle stream is compared to said optimal size distribution on the basis of a ratio between a size distribution for winnowings and a size distribution of larger tobacco lamina particles.

Claim 31 (Previously Presented): The method of Claim 1 further comprising adjusting an impact sheet to separate particles in said tobacco particle stream.

Claim 32 (Previously Presented): The method of Claim 31 further comprising biasing said impact sheet into a pre-defined position for proper separation of said tobacco particle stream.

Claim 33 (Previously Presented): A method of separating tobacco particles from a particle stream, comprising:

measuring a size distribution of a tobacco particle stream containing winnowings and tobacco particles;

comparing said measured size distribution to an optimal size distribution;

continually adjusting an impact sheet within a cigarette maker, said impact sheet located within said particle stream;

separating heavier tobacco particles from said particle stream from lighter

winnowing particles by said continual adjustment of said impact sheet.